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ABSTRACT

A study investigated the existence of language disorders among 290 "high risk" middle school students (grades five through nine) in five selected Florida school districts. "High risk" students were defined as those students experiencing academic difficulties in whom language deficits would be suspected. Students from the following primary placement categories were represented: regular education/high risk, compensatory education, specific learning disabilities, emotionally handicapped, severely language impaired, educable mentally handicapped, regular education, and gifted. Speech-language clinicians screened the students using the "Clinical Evaluation of Language Functions (CELF) Advanced Level Screening Test." The 11 basic subtests of the CELF Diagnostic and the Processing Speech Sounds supplementary subtest were administered to 131 of the students who failed the screening (those students classified as Educable Mentally Handicapped were not further evaluated). Findings revealed that of the 290 students screened statewide, 194 or 67% failed the screening. Of the total sample screened, 266 or 92% were high risk students, as defined previously. Rates of failure for each primary placement category were also calculated. In viewing the percentage of failure on specific subtests, patterns emerge across and within placement categories. In addition, findings showed that only 20% of the students who failed the screening were enrolled in speech therapy. When severely language impaired students were excluded from the data, only 9% of the remaining high risk group who failed the screening were receiving speech-language therapy. (Thirty-one references are attached.) (ARH)

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ED295227

RESEARCH REPORT 1

PROJECT ADOLANG

Identification of Adolescent Language Problems and Implications for Education

Florida Department of Education
Division of Public Schools
Bureau of Education for Exceptional Students

April, 1983

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PROJECT ADOLANG:

Identification of Adolescent Language Problems and Implications for Education

A report of the Task Force on Secondary Programs
for the Speech-Language Impaired

April 1, 1983

Bureau of Education for Exceptional Students
Division of Public Schools
Florida Department of Education

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STATEMENT OF THE PROBLEM

As students enter the middle school years (grades 5-9), classroom teachers assume that the students have attained a mastery of language sufficient to comprehend and use the sophisticated language contained in instruction and educational curriculum. Thus, little attention has been focused on an analysis of language and its effect on academic non-achievement.

A greater demand is placed on students' abilities to understand and use oral and written language as the medium for learning in the secondary school curriculum. The curriculum and teaching methods shift to use of more complex language than was required at the elementary level. Examples of the increased complexity of language include use of clauses, figurative language, temporal manipulation, etc. Therefore, students with basic language deficiencies often do not become visible until they are required to comprehend and use this more complex language.

It is hypothesized that there is a significant number of secondary school students who are experiencing academic difficulties resulting from basic language deficits. These academic difficulties are identified through poor school grades or problems that persist in daily classroom performance. Such students may be considered for enrollment in exceptional student education or remedial programs such as compensatory education. However, these programs may not address the students' underlying problems of language deficiencies. It is further suspected that a significant number of students receiving services in these programs warrant further language evaluation and possible language remediation.

With the expansion of services for handicapped students, greater numbers of students experiencing academic difficulties are being referred and placed in programs primarily related to specific learning disabilities or other exceptional student education programs. While the definition of a learning disability includes deficits in language processes, the evaluation instruments and eligibility criteria for placement in such programs do not routinely address language skills. A typical evaluation may include global intelligence measures, academic achievement tests, and assessments of basic psychological processes. These evaluations generally do not pinpoint language deficiencies nor are most evaluators trained to look for such deficiencies. In spite of the fact that speech and language screenings generally are required as part of the evaluation for exceptional student placement, at the secondary level such screening usually focuses on oral speech proficiency, such as articulation, fluency and voice, and not on underlying language proficiency.

At the secondary level, programs for learning disabled students generally focus on academic deficits with an emphasis on a tutorial instructional approach. For students in those programs who have a language deficit, such an instructional approach does not focus on an important aspect of their difficulties, i.e. a weak language foundation. Other educational placements such as educable mentally handicapped or emotionally handicapped are not designed to provide the assistance necessary for the study with a language deficit.

Persons involved in educational programs at the secondary level, be they regular educators, special educators, school psychologists, or administrators, tend to identify the needs of students according to their area of expertise and thus fragment the delivery of services. Most educators and evaluators lack an awareness of the complexity of normal language required at this age level as well as a knowledge of what constitutes a language deficit. Such lack of knowledge results in students with language deficits either not being identified or identified but inadequately served.

Those persons in the secondary schools with expertise in language are not usually in a position to influence the decisions affecting placement and delivery of services to students with language deficits for several reasons. The delivery model of most speech and language programs at the secondary level is itinerant. In addition, there tends to be a narrow focus of emphasis on oral speech cases such as articulation, fluency and voice. Due to this narrow focus, many speech-language clinicians are not sensitive to the role of language as a factor in academic non-achievement at this age level. Frequently, lack of personnel or allocation of personnel to other programs, e.g. elementary or preschool, dictates limited services to the secondary schools. Finally, programs may be initiated at the secondary level, but the newness of the program creates problems in curriculum selection and resource management.

To determine the validity of the hypothesis that secondary school students have language deficits which affect academic achievement and that these students are not receiving services appropriate to their language deficit, the Task Force on Secondary Programs for Speech-Language Impaired was established by the Bureau of Education for Exceptional Students, Florida Department of Education. Task force members were selected on the basis of their knowledge, interest, or expertise in language disorders. Some members represented districts which had established special language programs for secondary students. Final selection of task force members resulted in the following representation: two district administrators of exceptional student education programs, one full-time supervisor of speech-language programs, one part-time supervisor and part-time speech-language clinician, two speech-language clinicians with language programs at the secondary level, one university professor with expertise in language and learning disabilities, the state consultant for secondary language arts, and the state consultant for speech-language impaired. However, the state consultant for secondary language arts was unable to participate in the total project.

Specific charges to the task force were:

1. To identify current needs and problems in delivery of services to the secondary speech-language impaired population;
2. To explore procedures for alternate course content and credit; and
3. To evaluate the impact of state assessment, basic skills and functional literacy requirements in relation to this population.

During the inital meeting of the Task Force held in July, 1980, it was decided to address the first charge to the committee on the premise that until the targeted population was defined more specifically, answers to the other charges would be inappropriate. The Task Force explored issues related to poor academic performance, language and its role in learning and the affect of language deficits on learning. Research reports and journal articles were reviewed to determine the current "state of the art".

REVIEW OF LITERATURE

There were three areas of literature concerning language and its relationship to the education of adolescents explored for this study. The three areas were:

1. language problems as viewed in general relating to the secondary school population;
2. language deficits related to the complexity of academic tasks; and
3. delivery of program services for students with learning problems who exhibit language deficits.

Historical trends for identifying language problems for students generally have been directed toward classification in terms of etiology, description of present verbal behaviors, and language integration for content, form and use (Lammar and Lahey, 1981). Within recent years, professional literature suggests that oral language performance of secondary school students is indicative of more complex language abilities required in academic functioning.

The ability to perform high level language skills has been shown to be essential in the acquisition of linguistic knowledge for creative thinking, rationalization, and understanding the logic of language instruction (Beilen, 1975). This explicit language ability is put to test in more complex school curricula.

Hall and Tomblin (1978), in a follow-up study of children with articulation and language disorders, provided evidence that severely language impaired students persist in poorer educational achievement as compared to less severely language impaired students. The language disordered individual "frequently demonstrates disruptions in 1) higher order thinking, in 2) learning and school curriculum, and in 3) managing the language of instruction" (ASHA Position Paper, 1982). Current research indicates the strong relationship between language deficits and academic failure.

Language is a necessary skill for success in academic, social and emotional development. A clear understanding of language behavior and language disorders reduces the likelihood of professionals adopting a single model for assessment and intervention and acknowledges that language is not an isolated skill (ASHA Position Paper, 1982). "Current research continues to demonstrate the complexity of the processes involved in language and learning. Information continues to become available about the subtle (as well as obvious) language strategy differences that exist within the learning disabled population" (Wallach and Lee, 1980). Language is not an isolated or neatly categorized behavior. "When teachers teach history, math and geography, they teach language" (Wallach and Lee, 1980).

Velluntino's (1977) review of studies involving theories of dyslexia supports the relationship of language and learning. His conclusions were that evidence points toward verbal functioning deficits as the primary etiology of reading disorders. He further stated that, as a group, dyslexic students are significantly poorer at semantic and syntactic skills. Another study conducted follow-up evaluations on a group of reading disabled children, including adolescents. Of this group, the students also identified as language impaired made significantly less progress than the rest of the group (Gottesman, et. al., 1975).

Sawyer and Lipa (1981) concluded that any model developed for teaching reading must address itself to making use of reading behaviors within a developmental context. One of the prerequisite behaviors a student brings to the task of learning to read is language functioning. Also, a remediation process must be rooted in the knowledge of what each student has available at the level of knowledge and processing capabilities.

The ability to achieve in mathematics also involves language skills. It has been postulated that math "requires a basic language and conceptual repertoire as prerequisites for the development of abstractions necessary for problem solving." It is also maintained that the current emphasis on basic skills employing rote memorization and drill "may tend to undermine the child's natural ability to solve problems intuitively". The literature suggests that "an initial assessment of the language interaction involved in that task be conducted" (Carlson et. al., 1980).

Written expression is perhaps the most sophisticated form of language. "It depends almost entirely on three other forms - talking, listening and reading - but it involves distinctive skills that set it apart. Motor skills are required to produce the graphic images. Spelling skills are required with easy recall of both regular sound symbol association and irregular or nonphonetic cues. Syntactical competence is required, including knowledge of the conventions of punctuation, capitalization, usage and so on" (Silverman et. al., 1981).

Written language has been viewed as an activity that follows speech developmentally and structurally. Evidence is provided that one of the causes of writing disorders includes deficits in the underlying processes required for writing. Therefore, when evaluating those components which might affect writing performance the oral language system must be examined (Libowitz, 1981).

The educational implications of the studies done by Wiig and Semel (1975), Wiig, Lapointe and Semel (1977), and Semel and Wiig (1981) lead to the following conclusions:

1. At least two language deficit syndromes appear to emerge among the learning disabled. They are cognitive-linguistic processing deficits and dysnomia. (1977)
2. Productive language deficits observed in present learning disabled adolescents may be related to previously observed deficits in language processing in learning disabled students. (1975)
3. In reference to the above as deficits in the acquisition of language skills and functions, school age children may experience significant language gains in terms of remediation with process and task oriented training. (1981)

The work of Bryan (1977 and 1978) addresses the social and emotional complications which many learning disabled children face. "The source of these difficulties in relation to the

interpersonal problems of the learning disabled child appears to be in their comprehension of non-verbal communication, their affective involvements with others, and their expressive language ability - what they say and how they say it" (Bryan, 1978). It is inferred that the pragmatic development of language may be essential in terms of the learning disabled individual's use of the content in the linguistic utterances and how the individual uses this content to meet personal needs and, especially, to change the environment (Lucas, 1980).

Generally, the public educational system throughout our nation makes the assumption that students have knowledge of the language system before entering the school and that language proficiency is a given in the formulation of the early school curriculum. However, the central role of language in learning content areas is not formally acknowledged (ASHA Position Paper, 1982). A probable cause of this lack of acknowledgement by educators is that language acquisition takes place in the informal surroundings of the home and the neighborhood and little concern is expended to ensure that learning occurs. In contrast, the development of written language and the more complex oral language skills are not readily acquired in everyday life. Thus, the school has been given the responsibility of transmitting these components of our verbal system. Because oral language (verbally based teaching) proves to be the chief tool for teaching the more complex skills, it must be considered the medium of instruction through which all other learning is to be fostered (Berlin, Blank, and Rose, 1980).

The review of the literature indicated that secondary students are likely to have language deficits, thus supporting the assumption of the Task Force. Project Adolang, a research project, was designed to identify the nature and extent of the problem in Florida's adolescent population. The information from this research would then serve as a basis for evaluating current models and for suggesting appropriate program delivery systems.

DESIGN OF THE STUDY

Purpose of the Study

The purpose of Phase I of Project Adolang was to investigate the existence of language disorders in "high risk" middle school students in selected Florida school districts. It was assumed that targeting this population would provide a representative picture of the language needs of adolescents in our state at a point where intervention issues should be addressed.

"High risk" students were defined as those students experiencing academic difficulties in whom language deficits would be suspected, based on current research findings in the area of language disorders. They included students who had been placed in exceptional student education (ESE) programs such as specific learning disabilities, emotionally handicapped, educable mentally handicapped or severely language impaired. Those primarily in regular education but receiving speech-language therapy were also included. Students presently in regular education having been dismissed from ESE programs, those referred for ESE but declared ineligible, or those enrolled in compensatory education were also considered high risk for language disorders.

Methods and Procedures

Two hundred and ninety (290) students in grades five through nine were selected from the above categories in five school districts: Escambia, Manatee, Pinellas, Sarasota, and Citrus. Selection was made by personnel in the districts with direction from the Task Force to achieve a distribution of students across high risk categories.

Using the Clinical Evaluation of Language Functions (CELF) Advanced Level Screening Test, (Semel and Wiig, 1980), these students were screened by a team of trained speech-language clinicians. The following data were also collected on each student:

1. birthdate
2. ethnic background
3. grade placement
4. primary placement category
5. enrollment in speech-language therapy
6. dismissal from an ESE program
7. ineligibility for an ESE program
8. enrollment in compensatory education
9. IQ score

In scoring the screening test, raw scores were converted into percentiles by using grade

equivalent tables corresponding to the student's chronological age. If the student had been retained, the grade according to chronological expectation was utilized. Table Y in the Woodcock-Johnson Psychoeducational Battery, (Woodcock and Johnson, 1978) was used as a reference for conversion. Those criteria recommended by the authors of the CELF were used to determine failure on the screening for this project. The criteria were below the 10th percentile on either the Processing or Production section or below the 15th percentile on the Total score.

Of the students screened, those who failed were targeted for testing with the Clinical Evaluation of Language Functions (CELF) Diagnostic Battery (Semel and Wiig, 1980). Sixty-three (63) of those who failed were not evaluated further. A large portion of these students, forty-seven (47) were educable mentally handicapped students. A decision was made by the Task Force to exclude them from further evaluation, since these students by the nature of their handicap are expected to be deficient in language functioning. The remaining sixteen (16) students not tested had either moved or did not have parental permission for further evaluation.

The eleven basic subtests of the CELF Diagnostic Battery and the Processing Speech Sounds supplementary subtest were administered to 131 students. Raw scores for each subtest were recorded and later judged as pass or fail based on grade level criterion scores. The same grade level reference points used for the screening were used for the Diagnostic Battery.

Two separate criteria were used to assess performance of the total Diagnostic Battery. Since one of the major concerns of this test expressed by some examiners has been that criterion scores are too low (that is, it is too easy to pass), the Task Force assumed that failure on even one subtest might provide evidence of some language difficulty. A separate criterion of failure, i.e. failure on three subtests, was also used. This more stringent criterion had been used in predictive validity studies by Semel and Wiig, the authors of the test.

Administration of the Diagnostic Battery was managed by a speech-language pathologist under a purchase-of-services contract with the Department of Education. This approach was used due to limited time for personnel in the target districts to conduct the entire diagnostic program. Where possible, the individual under contract obtained assistance from selected speech-language diagnosticians in the districts.

The Instruments

The Clinical Evaluation of Language Functions (CELF) Advanced Level Screening Test (Semel and Wiig, 1980) is an instrument designed to screen the language processing and production abilities of students in Grades 5 - 12. Its major purpose is to assist in the identification of children who may need indepth assessment of their oral language functions. It consists of two sections: Processing with 34 items and Production with 18 items. Grade level norms are used to convert raw scores to percentile ranks. Three separate scores are obtained: Processing, Production, and Total. Recommended criteria for failing the screening are a total percentile rank below 15 or either a processing or production percentile rank less than 10.

The Clinical Evaluation of Language Functions (CELF) Diagnostic Battery, (Semel and Wiig, 1980) is a companion instrument to the screening test. It is designed to provide indepth assessment of children who are suspected of having language deficits on the basis of screening failure. There are eleven basic subtests, the first six being Processing subtests:

1. Word and Sentence Structure
2. Word Classes
3. Linguistic Concepts
4. Relationships and Ambiguities
5. Oral Directions
6. Spoken Paragraphs

Five are Production subtests:

1. Word Series
2. Confrontation Naming
3. Word Associations
4. Model Sentences
5. Formulated Sentences

Two additional subtests are considered supplementary:

1. Processing Speech Sounds
2. Producing Speech Sounds

When the project was implemented, only grade criterion scores for grades K-12 were available. The interpretation procedures originally designed by the authors of the test were utilized for this study and involved comparisons of students' performance based on success or failure in meeting criterion for grade level.

The Sample

Five Florida school districts (Escambia, Manatee, Sarasota, Pinellas, Citrus) were asked to select middle school students from the population of interest to this study. These school districts were selected to represent different size systems as well as different geographical areas of the State. Accessibility to students and willingness of the districts to participate also were factors in selection. As can be seen from Table 1, two large, two medium and one small district participated. A total of 290 students were selected for initial screening, with Escambia providing the largest number of students.

School sites and students were selected collaboratively by district administrators, supervisors and school-based personnel. Cooperation from targeted schools was a key factor in the selection process.

Table 1
Participating School Districts - Geographical and Size Characteristics
Number and Percent of Students Screened
N = 290

School District	Geographical Area	Size of District		Students Screened	
		Description	Total School Population 1980-1981	N	Percent of Total Screened
Escambia	Northwest	Large	42,043	119	41
Manatee	Southwest	Medium	20,621	65	22
Sarasota	Southwest	Medium	23,839	17	6
Pinellas	Southwest	Large	87,075	63	22
Citrus	West Central	Small	7,934	26	9
			TOTAL	290	100

The following subgroups of adolescents were considered by the Task Force to be at high risk for language deficits. These high risk groups were selected based on information from the literature and experiences of Task Force members with these populations. The categories are labeled primary placement categories throughout the study.

1. Basic (regular) Education - High Risk (Reg Ed-HR)
   a. Students in regular education who had been referred but determined ineligible for placement in special education.
   b. Students in regular education who have been dismissed from special education.
   c. Students in regular education classes receiving speech-language therapy.
2. Compensatory Education (Comp Ed)
3. Specific Learning Disabilities (SLD)
4. Emotionally Handicapped (EH)
5. Severely Language Impaired (SLI)
6. Educable Mentally Handicapped (EMH)

As a point of comparison, not primary to the intent of the study a small number of basic education students not at risk were also screened (Reg Ed-Av). These students were chosen because they were doing average work in regular academic classes and had no history of learning problems. Additionally, there was one gifted student.

Table 2 provides a breakdown of the total number of students screened by primary placement category. The first six groups were all considered "high risk" categories. For that reason Table 2 also provides data on high risk students as a group. Two hundred sixty-six (266) or 92% of the sample were high risk students. The largest single representation for a primary placement category was for specific learning disabilities; i.e. 28% of the sample.

Table 2

Number and Percent of Students Screened - By Primary Placement Category

N = 290

Primary Placement	Students Screened	
	N	% of Total Sample
Regular Education - High Risk	48	17
Compensatory Education	16	6
Specific Learning Disabilities	82	28
Emotionally Handicapped	47	16
Severely Language Impaired	24	8
Educable Mentally Handicapped	49	17
High Risk Group - Combination of above groups	266	92
Regular Education - Average	23	8
Gifted	1	1
TOTAL	**290**	**100%**

In terms of grade level representation, as can be seen in Table 3, the largest percentage of students were 8th graders (40%), followed by 6th graders (31%), with 7th graders comprising 27% of the sample. Few students were in grade 5 (2%) or 9 (1%).

Table 3

Number and Percent of Students Screened - By Grade

N = 290

Grade Level	N	% of Sample
Grade 5	7	2
Grade 6	89	31
Grade 7	77	27
Grade 8	116	40
Grade 9	1	1
TOTAL	**290**	**101**

The ethnic characteristics of the sample, shown in Table 4, were 64% White and 34% Black. Students from Hispanic or Asian backgrounds made up the remaining 2% of the sample.

Table 4

Number and Percent of Students Screened - By Ethnic Background

N = 290

Ethnic Background	N	% of Sample
White	187	64
Black	99	34
Hispanic	3	1
Asian	1	1
TOTAL	**290**	**100**

Research Questions

The screening and evaluation data were analyzed to answer the following research questions, using grade equivalent scores based on chronological age-grade placement:

1. Do a significant number of high risk adolescents in middle school fail the CELF advanced level screening test?

2. Is failure associated more significantly with one placement category over another? How do placement groups compare in failure rate?

3. Of the students who fail the screening, do a significant number fail the diagnostic battery based on the criterion of failed at least one subtest? What is the pattern of failure across placement categories?

4. Of the students who fail the screening, do a significant number fail the diagnostic battery based on the criterion of failed at least three subtests? What is the pattern of failure across placement categories?

5. Are there patterns of failure for given subtests on the diagnostic battery across placement categories and within placement categories?

6. Are speech-language services being provided to students who evidence language deficits as represented by failure on the screening or diagnostic battery?

PRESENTATION AND ANALYSIS OF THE DATA

To answer the aforementioned research questions, the following data are presented.

Of the 290 students screened statewide, 194 or 67% failed the screening. The first two research questions raised were in regard to the significance of failure of high risk adolescents in the middle school on the CELF screening test and the significance of failure in relation to placement categories. Of the total sample screened, 266 or 92% were high risk students, as defined previously. In this composite group, 72% failed the screening. Rates of failure for each placement category are listed in Table 5. The highest rate of failure for a single group was for the EMH group (98%). Those identified as primarily language impaired had the second highest rate of failure at 92%. SLD students were next with 79% failing, following by the EH group with 70%. Forty-four (44) percent of the high risk regular education students and nineteen (19) percent of the compensatory education students failed. The lowest failure rate was for average regular education students; only 9% failed.

Table 5
Number and Percent of Students Failing the Screening
By Primary Placement Category

Primary Placement Category	N Screened	N Failed	% Failed In That Group
Reg Ed-HR	48	21	44
Comp Ed	16	3	19
SLD	82	65	79
EH	47	33	70
SLI	24	22	92
EMH	49	48	98
High Risk Group (All of the above)	266	192	72
Reg Ed-Av	23	2	9
Gifted	1	0	-
Statewide Total	**290**	**194**	**67**

There was no attempt to control the variable of ethnic background in this study. In regard to failure on the screening test, it would be inappropriate to analyze the performance of Hispanic(3) and Asian (1) students, since the number of students in the sample is too small. However, it should be noted that Black students, who comprised 34% of the total sample, demonstrated a failure rate of 82% as compared to a failure rate of 59% for White students, which constituted 64% of the total sample (Table 6).

Table 6

Number and Percent of Students Failing Screening by Ethnic Background

N = 290

	Students Screened		Failed Screening	
Ethnic Background	**N**	**% of Sample**	**N**	**% of Sample**
White	187	64	110	59
Black	99	34	81	82
Hispanic	3	1	2	67
Asian	1	1	1	100
TOTAL	**290**	**100**	**194**	

Research questions three and four addressed the significant relationships between the screening test and failure on the diagnostic battery of at least one subtest or at least three subtests. In addition, these questions sought to determine if there was a pattern of failure across placement categories.

The analysis of screening results, noted in Table 6, must be viewed in the light of follow-up evaluation to corroborate deficits suspected on the basis of the screening tests. Results on the indepth diagnostic battery, showen in Table 7, indicate failure rate of students based on two separate criteria, i.e. failure on one subtest and failure on three or more subtests. Of the 131 students tested, 130 of whom were in the high risk composite group, all students failed at least one subtest. On the more stringent criterion of failing three or more subtests, 83% failed. Comparisons in performance on these criteria can be made across placement categories. Since only two EMH students were retested in this phase, further analysis regarding this group is inappropriate and not basic to the primary intent of the study.

With regard to SLI students, 96% failed at least three subtests, with only one of this group failing fewer than three subtests. In the EH group, 96% failed 3 or more subtests. The failure rate for SLD students was 81% on three or more subtests.

The fact that 67% of the Basic Regular Education - High Risk group failed three or more subtests should be noted. Since only two Comp Ed (one who failed three) and one Regular Education - Average student were tested, no substantial analysis is possible.

Table 7

Number and Percent of Students Failing Diagnostic Battery by Primary Placement Category

Primary Placement Category	N failing screening on any criterion and tested with Diagnostic Battery	Failed 1 subtest on Diagnostic Battery		Failed at least 3 subtests on Diagnostic Battery	
		N	% of those tested in that group	N	% of those tested in that group
Reg Ed - HR	18	18	100	12	67
Comp Ed	2	2	100	1	50
SLD	57	57	100	46	81
EH	29	29	100	26	90
SLI	22	22	100	21	96
EMH	2	2	100	2	100
High Risk Group (All of the above)	130	130	100	108	83
Reg Ed - Av	1	1	100	0	-
Gifted	0	0	-	0	-
Statewide Total	**131**	**131**	**100**	**108**	**83**

In viewing the percent of failure on specific subtests, patterns emerge across and within categories as asked in research question number five (See Table 8). The most frequently failed subtest across groups was Processing Word Classes, a semantically based categorization task. For the EH group, this together with Producing Word Series were the most frequently failed subtests (62%). The latter subtest requires recitation of days of the week and months of the year. In the SLD group, Producing Word Series (65%) and Processing Word Classes (61%) were failed with the most frequency, while for the SLI group, Producing Model Sentences (a sentence imitation task) was the most frequently failed (90%), followed by Oral Directions (72%). High risk regular education students had the most difficulty in Producing Word Series (44%).

Table 8

Number and Percent of Students Failing Each Subtest by Primary Placement Category

Subtest	Reg Ed-HR		Comp Ed		SLD		EH		SLI		EMH		Total High Risk		Reg Ed-Av		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
PROCESSING																		
Words and Sentence Structure	5	28	1	50	23	40	13	45	9	41	2	100	52	40	1	100	53	40
Word Classes	9	50	0	0	35	61	18	62	15	68	2	100	79	61	0	0	79	61
Linguistic Concepts	2	11	0	0	7	12	5	17	6	27	1	50	21	16	0	0	21	16
Relationships and Ambiguities	2	11	0	0	19	33	12	41	15	68	1	50	49	38	0	0	49	38
Oral Directions	5	28	0	0	18	32	13	45	16	72	2	100	54	42	0	0	54	42
Spoken Paragraphs	3	17	0	0	13	23	7	24	14	64	1	50	38	29	0	0	38	29
PRODUCTION																		
Word Series	8	44	0	0	37	65	18	62	7	32	1	50	72	55	0	0	72	55
Confrontation Naming	0	0	0	0	11	19	9	31	10	46	1	50	31	24	0	0	31	24
Word Associations	5	28	1	50	12	21	6	21	13	59	1	50	37	28	1	100	38	29
Model Sentences	2	11	1	50	25	44	12	41	20	90	2	100	6	47	1	100	62	47
Formulated Sentence	5	28	1	50	19	33	11	38	12	55	2	100	48	37	1	100	49	37
Processing Speech Sound	1	6	1	50	14	25	10	34	10	46	2	100	38	29	1	100	39	30

Overall, Processing Linguistic Concepts was the least troublesome subtest. This also was true for the SLD, EH and SLI groups. Another finding was that no Regular Ed-HR failed Confrontation Naming, a subtest designed to assess retrieval speed and accuracy. Many SLD, EH and SLI students failed this subtest.

Finally, research question six addressed the issue of speech-language services to students with language deficits. With regard to the population who showed evidence of language problems as indicated by failure on the screening, a crucial question is, how many of these students were receiving speech-language therapy at that time? As presented in Table 9, only 20% of the students failing the screening were enrolled in therapy. An important consideration with regard to this figure is that included therein were the 22 severely language impaired students who by definition were enrolled in therapy. When these students are excluded from the data, only 9% of the remaining high risk group who failed the screening were receiving speech-language therapy.

Table 9

Students Failing Screening and Receiving Speech-Language (S/L) Services

Primary Placement Category	Failed Screening N	Receiving S/L N	Receiving S/L %
Reg Ed - HR	21	1	5
Comp Ed	3	0	0
SLD	65	9	14
EH	33	3	9
SLI	22	22	100
EMH	48	3	6
High Risk Group (All of the above)	192	38	20
High Risk Group Excluding SLI	170	16	9

DISCUSSION AND IMPLICATIONS

As reported in this study, significant numbers of students (72%) who were experiencing academic difficulties in regular (basic) education, some type of remedial (compensatory) education or exceptional student education failed the CELF Advanced Level Screening Test. Although this was a high rate of failure overall, the rate was not surprising for certain placement groups. For example, there is ample documentation in the literature of disorders in the EMH population (McLean and Snyder-McLean, 1982; Schiefelbusch and Lloyd, 1974; McLean, Yoder and Schiefelbusch, 1972). The EMH group in this study had a 98% failure rate, thus supporting previous documentation.

With the SLI group (92% failure), it would be expected that students identified for placement purposes as primarily language impaired evidence language problems. However, the high rate of failure in the SLD students (79%) and the EH students (70%) is noteworthy and will be discussed further in terms of performance of these students on the Diagnostic Battery.

Another aspect of screening results which should be discussed is the failure rate for Black students. It is possible that the generally higher rate of failure in Blacks (82%) may be a result, at least in part of dialect interference. Language assessment instruments are sensitive to bidialect and bilingual interference factors which may operate with students of diverse ethnic backgrounds. What may appear to be a language deficit may actually be a language difference. Careful error analysis by trained language evaluators must be used in rendering individual diagnostic decisions with ethnic minority students. In any case, such differences, although not to be considered a handicap in the legal definition of the term, may provide interference with academic learning. Failure results should be interpreted, then, to indicate that the students who failed may have done so because their primary linguistic system is not Standard American English, the language of the test. This finding in itself has implications for curriculum planning and for the need to consider dialect interference in programming.

Care must be taken in drawing any conclusions based on screening data. Theoretically, it would be possible for a screening test to produce false positive results wherein students' failure would not be corroborated by subsequent evaluation. Therefore, the real significance of the study lies in the results of the language diagnostic evaluation using the CELF Diagnostic Battery.

Since a major criticism of the CELF Diagnostic Battery has been the ease of students' meeting grade level criteria, failing even one subtest may be indicative of language difficulties. Therefore, the fact that 100% of the students who failed the screening failed at least one subtest lends support to the high incidence of some degree of language difficulty suspected on the basis of screening results. Certainly the more stringent criterion of failing three or more subtests is more convincing evidence of language disorders. In this regard, the overall failure rate of 83% in the high risk composite group attests to language disorders in this population.

Considering the age level of students involved, the large percentage of oral language problems overall is an important finding. Students at this age level are often assumed to have outgrown communication problems by adolescence or to have benefited from previous language intervention sufficiently to alleviate concern for their language status. It is, therefore, common for schools to place little emphasis on oral communication skills and underlying language functioning with adolescents. Generally, the results of this study would support the findings of other researchers (Aram and Nation, 1980; Strominger and Bashir, 1977) in suggesting that educators pay closer attention to language skills with students at this age level.

With regard to failure rate in certain placement categories, the most significant finding relates to the performance of SLD and EH students; 81% of the SLD and 90% of the EH students tested failed three or more subtests of the CELF. Although these students are identified as being below grade level, it is likely that little attention has been paid to the possibility of language interference accounting for the student's learning problems. This is especially true at the secondary level. The failure rate for high risk regular education students was not as high (67%), but it is interesting to note the evidence of language disorders in this population in light of their academic difficulties.

Having identified such a large percentage of the high risk population as evidencing language difficulties, the next relevant aspect of discussion pertains to the current status of speech-language services to students exhibiting language problems. When considering the current state of the art, it is plausible to assume the many students not receiving speech-language services are not receiving services to meet their language needs. Of the population failing the CELF, only a small percentage (20%) were receiving the services of a speech-language clinician. Over half of these students enrolled in therapy were identified as severely language impaired. If the severely language impaired who were in a special placement to meet their needs were excluded from the data, then only 9% of those evidencing language difficulties in the study were receiving speech-language services. It was not determined how many of these students were receiving remediation for problems other than language, such as articulation, fluency or voice disorders.

Results of this study suggest several implications regarding language and the adolescent in the following areas:

1. Screening and evaluation procedures to identify secondary students with language problems
2. Programming for adolescents with language difficulties
3. Training in the area of language for educators working with adolescents
4. Further research concerning language and the adolescent population.

The recognition of possible language disorders in the adolescent must be accompanied by attention to screening and evaluation procedures. The large incidence of language disorders in the high risk population studied suggest that when a student is experiencing academic difficulties, underlying language abilities should be investigated by personnel knowledgeable in the area of language. This means that both regular and special education teachers need to recognize those behaviors that may suggest a language deficit, psychologists and other educational diagnosticians must be able to assess possible indicators of language interference on psychoeducational tests, and the speech-language clinician must conduct relevant language screening procedures. Unfortunately, the typical communication screening procedures used currently with adolescents address

mostly speech production with only a cursory reference to the language cpapabilities of the individual. In other screening procedures, professionals generally feel uncomfortable in addressing the language issue. In essence, screening students with academic dificulties needs to be a team effort and needs to address language abilities specifically.

Companion to the need for more appropriate screening procedures is the need to address the language issue more thoroughly in the evaluation process. Based on current research on the relationship between language and academic skill acquisition, it is conceivable that a student's academic deficits may be related to a deficit language base which had not previously been discovered. It is also possible that language problems may be at the root of poor performance of some students on measures of intellectual potential. In the case of the SLD student, a problem which may be diagnosed as an "auditory processing" deficit may be more appropriately and relevantly viewed as a language processing disorder.

If so viewed, this diagnosis would have different programmatic implications. Since the speech-language clinician is likely to be a professional who is knowledgeable about language, this individual should play a vital role in evaluation. For example, apart from a cursory screening procedure, the speech-language clinician should be available to review diagnostic findings throughout the evaluation process and administer indepth language evaluations as indicated.

Beyond screening and evaluation, the programmatic implications for the secondary student with language problems are many, especially in light of the findings regarding present provision of speech-language services to those who evidenced disorders. The results of the study suggest the need to consider the current lack of services to adolescents with language problems and the need to provide appropriate assistance to this population. These results may be explained, in part, by the lack of adequate identification procedures alluded to previously. In addition to the issues of screening and evaluation adequacy, perhaps speech-language resources may not be available at the secondary level in many school systems. Another consideration may be that the language needs are being met in the primary educational setting in which the students are currently being served. Such a consideration, however, would be contingent on the training of the classroom teachers as well as the focus of the curriculum. These issues will be discussed later.

Although the language needs of the students must be met, it would be naive to assume that the traditional type of direct services from a speech-language clinician is necessarily the most appropriate type of services to meet these needs. Various delivery models need to be explored, including indirect service from the speech-language clinician to special education and regular education teachers. This latter approach suggests, however, a minimum knowledge base in language on the part of teachers in order for them to benefit from indirect service and implement programs to assist the adolescent.

Regardless of the particular delivery model chosen, there is a need to program for the language disordered student in relation to the language of instruction and the content of the curriculum. Since language is the foundation of academic learning and serves as the primary medium for presenting the curriculum, it is essential that the individual's language and learning needs are addressed. As the secondary curriculum and its language becomes more complex, those students with language problems may fall further and further behind academically. Depending upon the type and extent of the language problems, academic difficulties may be limited to a narrow aspect of the curriculum or may be more global in nature, cutting across all areas of the curriculum. Based on

appropriate evaluations, the professional team should modify the learning environment in such a manner as to meet the needs of the students.

All professionals involved with the secondary population must assume greater responsibility for student evaluation, program planning, and program implementation based on a knowledge of language and the needs of the student. An overriding concern is whether evaluation and programming can be determined by the majority of professionals involved with adolescents, considering the current level of expertise of these individuals with respect to language. If a refocusing of language skills is to become a reality, evaluators will need training in assessment aspects and teachers (special and regular education) will need additional training in programming for students with language disabilities. It is also important for speech-language clinicians to become more adept in academic curricula and instruction in order to deal more effectively with the impact of language deficits. In some cases, speech-language clinicians trained before the current emphasis in the field on language may need updating of skills in the area.

There is a need for additional analysis of data generated by this study as well as further research in the area of adolescent language problems. Additional data analysis should be done in the following areas to further define the profile of adolescent language performance:

1. Does greater failure occur on processing or production sections of the CELF?
2. Is there an error pattern of failure on screening items, across placement categories and within placement categories?
3. Do students who fail the process section of the screening test also fail the process section of the diagnostic battery?
4. Do students who fail the production section of the screening test also fail the production section of the diagnostic battery?
5. Do the new CELF norms and score conversions change the results of the present analysis? If so, how?

Further research in the area of adolescent language problems might include:

1. a comparison of language performance in early adolescence (middle school) versus late adolescence (high school);
2. the identification of constraints on programming for language impaired students in middle and high schools;
3. the relationship between language deficits and the poor performance of students on academic achievement measures, e.g. State Student Assessment Tests (SSAT);
4. the impact of language intervention on academic achievement, e.g. increased mastery as measured by the SSAT;
5. the effectiveness of various service delivery models for this population; and
6. the identification of appropriate curricula designs to meet adolescent language needs.

Finally, it is the responsibility of all concerned educators to identify the barriers hampering communication and interfering with the learning process. Given that there is a large population of students in secondary schools who exhibit language problems, then there is a need to serve these students appropriately. Additional studies may provide the material and tools with which educators can build a foundation of success for the language disordered population.

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